

(No Model.)

V. V. MOORE.
CAR COUPLING.

No. 574,340.

Patented Dec. 29, 1896.

Fig. 1.

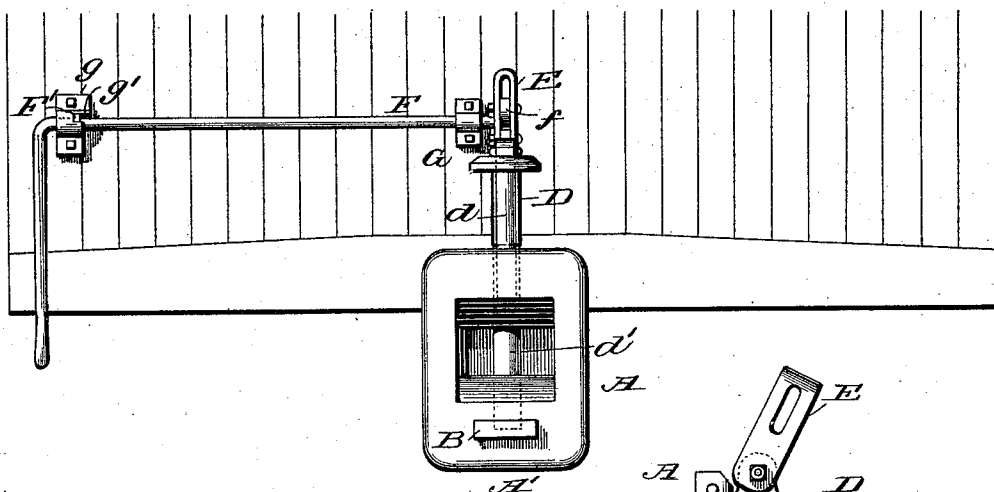


Fig. 2.

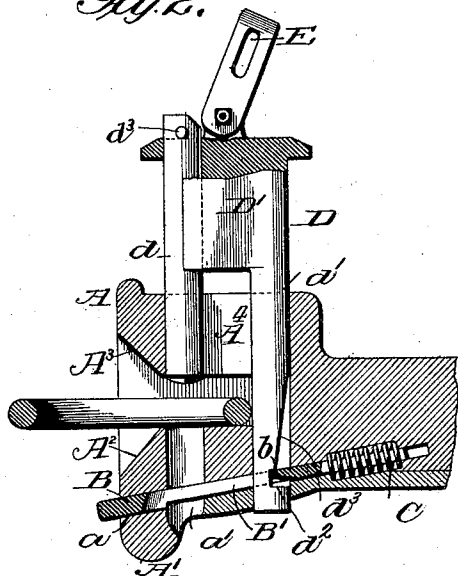


Fig. 3.

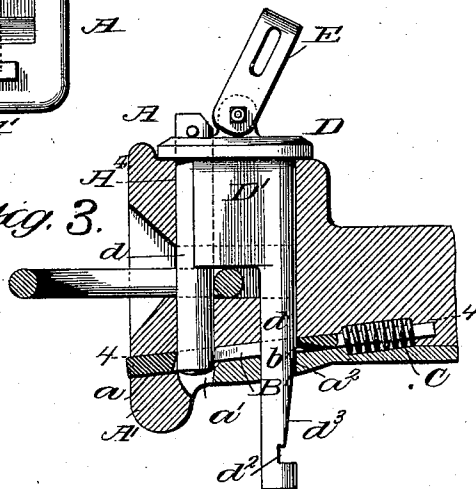
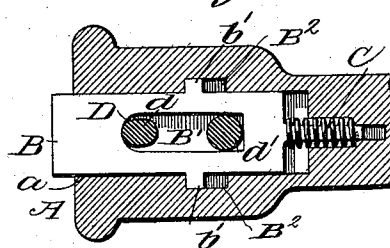


Fig. 4.



WITNESSES

Jos. L. Stack.
James R. Mansfield

INVENTOR

Valloo V. Moore
By Alexander Dowell
Attorneys

UNITED STATES PATENT OFFICE.

VALLOO V. MOORE, OF BARABOO, WISCONSIN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 574,340, dated December 29, 1896.

Application filed May 12, 1896. Serial No. 591,224. (No model.)

To all whom it may concern:

Be it known that I, VALLOO V. MOORE, of Baraboo, in the county of Sauk and State of Wisconsin, have invented certain new and useful Improvements in Car-Couplings; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in pin-and-link car-couplings; and it consists in the novel construction and combinations of parts hereinafter described. It has especial reference to the form of the pin and the pin-and-link upholding and lifting devices, as will be hereinafter clearly explained, reference being had to the accompanying drawings, in which—

Figure 1 is an end view of a car equipped with my improved coupling. Fig. 2 is an enlarged vertical longitudinal section through the coupling, showing the pin raised. Fig. 3 is a view similar to Fig. 2, showing the pin lowered. Fig. 4 is a section, looking down, on line 4 4, Fig. 3.

A designates the draw-bar, of general contour, but the floor of the draw-bar, in front of the pin-opening, is beveled downwardly, as at A^2 , and its roof, in front of the pin-opening, is beveled upwardly, as at A^3 , for the purpose of catching and directing the links into the mouth of the draw-bar and allowing a link in the draw-bar to be swung up or down, as may be necessary to make an automatic coupling. The draw-bar also has a depending lip A' on its front end, through which, below the mouth of the draw-bar, projects the front and lower end of a spring-actuated sliding plate B, that rests in a slot a in the draw-bar, below the floor thereof, said plate having an elongated slot B' for the passage of the stems of the pin, the rear edge of the slot being tapered, as at b , for the purpose of facilitating its engagement with a notch in the rear stem of the pin, hereinafter referred to. The plate is normally projected outward by means of a concealed coiled spring C, and its play is limited by lateral ears b' , which engage lateral recesses B^2 in the sides of slot B. For simplicity of construction that part of the draw-bar which is below slot B' may

be made separate from the main body of the draw-bar and bolted or otherwise affixed thereto, so as to render insertion and removal of the slide B and spring C easy. The pin D has a front stem d and rear stem d' , arranged parallel and vertical and connected at top by a web D' .

While the stems and web may be made integral, I preferably form the front stem d separate from the web and attach it thereto by means of a key d^3 , as shown, so that as all the strain comes upon stem d if it should be bent or broken it can be removed and replaced by another stem without having to replace the entire pin. This I consider a very valuable feature.

The roof of the draw-bar is slotted, as at A' , to accommodate the stems and web, but the floor of the draw-bar has openings a' a^2 for the stems, the web not being long enough to extend into the floor of the draw-bar. The stem d' is longer than stem d and has a notch d^2 in its rear edge adapted to be engaged by the part b of plate B when the pin is raised, as shown in Fig. 2, plate B thus limiting the upward movement of the pin and at the same time upholding the latter, when lifted, until the plate is retracted. The stem d' is preferably beveled upwardly from notch d^2 , as shown at d^3 , to lessen the friction thereagainst when the pin is lifted and facilitate engagement of plate B therewith.

To the upper end of pin D is pivoted a double-slotted link E, which is loosely connected to the forwardly-bent end f of a shaft F, which is supported transversely of the car in suitable bearings G g , attached to the end thereof, as shown. The other end of shaft F is bent at right angles to the shaft and to end f , so that the shaft F can be conveniently rocked to raise the pin. By pulling shaft F lengthwise when the link is raised a pin F' on the shaft can be drawn into a slot g' in bearing g , and thus the shaft be locked to uphold the pin until it is pushed inward so as to disengage pin F' from slot g' .

The double-slotted link E allows the end f of shaft F to drop to or below the horizontal when plate B locks the pin in its uplifted position. Consequently pin F' is dropped out of register with slot g' , so that there will be no

opportunity for the shaft F to be casually jarred into locked position when the pin is being lifted. (The link E naturally stands in a rearwardly-inclined position, as shown, thus preventing the end *f* of shaft F binding the pin in the draw-bar when raised.)

The pin is upheld temporarily by the plate B, as indicated in Fig. 3. In coupling, however, the end of the link enters the draw-bar and passes beneath stem *d*. Then the draw-bar strikes plate B and pushes it rearward, disengaging stem *d'*, and the pin drops, stem *b* transfixing the link and effecting the coupling.

The web D' bears upon the link when coupled, so that the weight of the pin is on the link. Consequently the link will be held horizontal, or it can be adjusted and held in an inclined position, so as to couple with a higher or lower draw-bar.

The coupling is especially adapted for automatic operation, as the bevels A² A³ in the mouth of the draw-bar will direct the link into the draw-bar in position for engagement by stem *d*, even if the draw-bars on the opposite cars be at different levels.

By means of shaft F the pin can be raised and the link released when desired, and if shaft F be locked, as described, in uplifted position no coupling can be made, this feature being very useful in shifting cars, &c.

The upper end of stem *d* is beveled, as shown at *d*², so that when the draw-bar moves inward (which in common with all couplings it is arranged to do) the link E will not bind against the stem.

The double-slotting of link E leaves the end *f* of shaft F free to drop down on the pin and thus assist in holding it down in coupled position.

Having thus described my invention, what

I therefore claim as new, and desire to secure by Letters Patent thereon, is—

1. In a car-coupling, the combination of the draw-bar, and the pin having front detachable stem *d*, rear stem *d'* and web D'; with a spring-actuated catch projecting beyond the front end of the draw-bar adapted to engage a notch in the rear stem when the pin is raised, substantially as and for the purpose described.

2. In a car-coupling, the combination of the draw-bar, and the pin having front and rear stems, the latter being notched in its lower end; with the slotted spring-actuated plate B below the floor of the draw-bar, and projecting beyond the front end thereof, adapted to engage the notch in the rear stem when the pin is raised, substantially as and for the purpose described.

3. The combination of the draw-bar A having bevels A², A³, and slot A⁴, and openings *a'*, *a*², with the pin D, having stems *d*, *d'*, and web D', and the spring-catch for upholding said pin, all substantially as and for the purpose set forth.

4. The combination of the draw-bar A having slot A⁴, openings *a'*, *a*², and the slot *a* below the mouth of the draw-bar; and the plate B having slot B' and the spring C, substantially as described; with the pin D having stems *d*, *d'*, and web D', and the link-lifting devices, all substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

VALLOO V. MOORE.

In presence of—

D. W. HITCHCOCK,
ED. L. LUCKOW.